

Amendments to the Claims:

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32. (Currently amended) A breathing mask with sensors for monitoring a patient during gas delivery comprising:

a mask having a perimeter on its outer edge for making a sealing contact with a body having an internal surface, an external surface, and a perimeter surface shaped to form a seal around the face of a patient's nose and mouth; and

at least one EEG sensor on the perimeter of the mask makes contact with the face of the patient for measuring at least one parameter indicating a state of the patient, extended from the mask and positioned to detect brain activity.

at least one lead in the perimeter of the mask connected to the at least one sensor for transmission of data;

a means for transmitting data from the mask;

a hose connector on the mask for attachment of a hose for delivery of gas to the mask.

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33. ~~56.~~ (Deleted)

57. (New) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect muscle activity.

58. (New) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect ECG.

59. (New) The breathing mask of claim 32, and further comprising a flow sensor connected to the internal surface.
60. (New) The breathing mask of claim 32, and further comprising an oxygen saturation sensor extended from the mask.
61. (New) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect eye movements.
62. (New) A mask comprising:
- a body having an internal surface, an external surface, a perimeter surface, and an airhose extending from the body; and
- at least one EMG sensor connected to the body and positioned to detect muscle activity relating to a sleep state.
63. (New) The mask of claim 62, and further comprising a first sensor positioned on the internal surface for detecting nasal breathing and a second sensor positioned on the external surface for detecting oral breathing.
64. (New) The mask of claim 63, wherein the first and second sensors are thermal sensors.
65. (New) The mask of claim 62, and further comprising at least one EEG sensor positioned on the perimeter surface.

66. (New) The mask of claim 62, and further comprising at least one EOG sensor positioned on the perimeter surface.
67. (New) The mask of claim 62, wherein a portion of the perimeter surface is comprised of a conductive carbonized rubber material.
68. (New) The mask of claim 62, and further comprising a plurality of straps coupled to the body, the straps having at least one sensor positioned thereon.
69. (New) The mask of claim 62, and further comprising a position sensor coupled to the body.
70. (New) The mask of claim 62, and further comprising a microphone coupled to the body.
71. (New) The mask of claim 62, wherein the perimeter surface is adapted to sense air leaks.
72. (New) The mask of claim 62, and further comprising a patient recycled air detection system positioned on the internal surface.
73. (New) A mask assembly comprising:
- a mask;
 - a plurality of sensors connected to the mask; and
 - a computer in communication with the sensors, the computer adapted to determine sleep state.

74. (New) A mask assembly comprising:

a mask;

a plurality of sensors connected to the mask; and

a computer in communication with the sensors, the computer adapted to determine arousal.